AR 201-12549 b14

ROBUST SUMMARY
ALKYL SULFIDE CATETGORY
CAS # 68511-50-2
GENETIC TOXICITY ELEMENTS: GENETIC TOXICITY IN VIVO

Test Substance	
CAS #	68511-50-2
Chemical Name	1-propene, 2-methyl-, sulfurized
Remarks	This substance is also referred to as methyl propene derivative in HERTG's Test Plan for Alkyl Sulfide Category. For more information on the chemical, see Section 2.0 "Chemical Description of Alkyl Sulfide Category" in HERTG's Test Plan for Alkyl Sulfide Category.
Method	
Method/Guideline followed	OECD 474.
Test Type	Mammalian bone marrow erythrocyte micronucleus test
GLP (Y/N)	Y
Year (Study Performed)	1989
Species	Mouse
Strain	B6C3F1
Sex	Male and female
Route of administration	Intraperitoneal
Doses/concentrations	Single injection of 3.5 g/kg test material, 50 mg/kg cyclophosphamide in saline, or methylcellulose vehicle alone (vehicle = hydroxypropyl methylcellulose (Methocel K4M Premium - Dow Chemical)) 15 animals (5M, 5F/dose/sample interval); Positive control (5M,5F)
Exposure Period	Single dose
Statistical methods	Normal test for equality of proportion (one-tailed). Because of multiplicity of comparisons , a Dunnett adjustment was made.
Remarks field for test conditions	Young male and female mice were treated with a single intraperitoneal injection of 3.5 g/kg test material, 50 mg/kg cyclophosphamide in saline, or methylcellulose vehicle alone. Dose had been determined in a preliminary toxicity test to identified MTD for this study. Animals were sacrificed and femurs removed at 24, 48 or 72 hours post dosing (5M, 5F per interval) for test material and negative control, and at 24 hours postdosing only for cyclophosphamide. Bone marrow smears were prepared and immature red blood cells (polychromatic erythrocytes, PCEs) and mature red blood cells (normochromatic erythrocytes, NCEs) were evaluated for toxicity and the presence of micronuclei. Slides were stained with acridine orange and scored under a fluorescence microscope. Slides from all dose groups were sorted by a computerized random number system and the cytogeneticist was unaware of what dose group any individual slide was from. The ratio of PCE or NCE per the first 1000 erythrocytes counted was calculated to determine cytotoxicity if any.

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Results	
Remarks	In the preliminary toxicity test (2M, 2F/group) all mice died at 5.0 g/kg and all survived at 3.5 g/kg with no cytotoxicity in bone marrow cells 24 hours after injection. Data from the full study demonstrate that the frequency of mironucleated PCEs in femoral bone marrow for males and females treated with the test material was not significantly elevated ($p<0.05$) when compared to negative controls for groups sampled at 24, 48 or 72 hours postinjection. Results from both sexes combined demonstrate the same results. Cyclophosphamide, the positive control material did induce statistically significant increases in micronucleated PCEs in all animals demonstrating that a valid study was performed.
Conclusions	Methyl propene derivative administered IP at 3.5 g/kg body weight did not induce the formation of micronuclei in PCEs in male or female mice at any time interval and is not considered clastogenic in this test system.
Data Quality	Reliable without restrictions. Guideline study.
References	This robust summary was prepared from an unpublished study by an individual member company of the HERTG (the underlying study contains confidential business information).
Other	Updated: 12-29-99